UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,088	07/26/2001	Alessandro Lambiase	36226/125733	6075

7590 09/27/2002

N Whitney Wilson
Bryan Cave
245 Park Avenue
New York, NY 10167

EXAMINER
DI NOLA BARON, LILIANA

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 09/27/2002 6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/890,088	Applicant(s) LAMBIASE, ALESSANDRO	
	Examiner Liliana Di Nola-Baron	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Finkenaur et al. (EPA 0312208A1).

The claimed invention is directed to methods comprising administering a composition comprising nerve growth factor (NGF) to a subject in need thereof.

Finkenaur et al. discloses the use of a composition comprising a polypeptide growth factor, in particular NGF, in a concentration of 1-500 μg/ml for the treatment of wounds (See p. 4, lines 7-13), teaches that the gels of the invention can be in the form of eye drop formulations or solutions and includes surgically induced ophthalmic wounds, in particular subconjunctival wounds, among the wounds healed by the composition of the invention (See p. 6, lines 3-11). Additionally, Finkenaur et al. teaches that the gel of the invention can be applied to internal wounds and gel-forming polymer can be degradable (See p. 6, lines 12-13).

The method provided by Finkenaur et al. meets the limitations of claims 13-24 of the instant application, as it contemplates methods comprising administering a composition comprising nerve growth factor (NGF) to a subject in need thereof for the treatment of a pathology affecting the internal tissue of an eye. Thus, Finkenaur et al. anticipates the claimed invention.

> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Louis (U.S. Patent 5,736,516).

Louis provides a method for treating vision loss due to photoreceptor degeneration, comprising the intraocular administration of glial cell-derived neurothropic factor (GDNF) in a dose of 0.001-10 mg/day (See col. 4, line 50 to col. 5, line 17). Louis teaches that the GDNF includes natural, synthetic or recombinant GDNF and comprises the GDNFs, which are homologous to the human GDNF (See col. 7, lines 36-45). Louis contemplates pharmaceutical compositions comprising delivery vehicles, including ophthalmic solutions, suspensions and ointments, and formulations for subconjuctival, orbital and intracameral injection (See col. 16, line 45 to col. 18, line 49). Louis teaches that additional formulations may include materials, which provide for prolonged ocular residence, such as polymers and gel-forming materials (See col. 19, lines 51-65).

The method disclosed by Louis meets the limitations of claims 13-20 of the instant application, as it contemplates methods comprising administering a composition comprising nerve growth factor (NGF) to a subject in need thereof for the treatment of a pathology affecting the internal tissue of an eye. Thus, Louis anticipates the claimed invention.

> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 13-20 are rejected under 35 U.S.C. 102(a) as being anticipated by WO98/10785.

The patent provides an ophthalmic composition for subconjunctival and ocular injection to treat optic nerve disorders, said composition comprising NGF in an amount of 10^{-3} to $2x\ 10^{5}$ μg/ml (See pp3-4).

The method disclosed by the patent meets the limitations of claims 13-20 of the instant application, as it contemplates methods comprising administering a composition comprising nerve growth factor (NGF) to a subject in need thereof for the treatment of a pathology affecting the internal tissue of an eye. Thus, the patent anticipates the claimed invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finkenaur et al. (EPA 0312208A1).

The teachings of Finkenaur et al. have been summarized above.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teachings of Finkenaur et al. to device methods for the treatment of pathologies affecting the internal tissue of an eye, comprising administering NGF in the amount disclosed in the publication. The expected result would have been successful methods of

treatment of the pathology in the eye. Because of the teachings of Finkenaur et al., that NGF is effective in treating ophthalmic wounds, including internal wounds, one of ordinary skill in the art would have a reasonable expectation that the methods claimed in the instant application would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

7. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammang et al. (U.S. Patent 6,436,427).

Hammang et al. discloses the intraocular delivery of neurothropic factors, including NGF, in the dosage range of 50-500 ng, for the treatment of ophthalmic diseases, including retinal vascular diseases, choroidal disorders and tumors, vitreous disorders, trauma, post-cataract complications and optic neuropathies (See col. 5, line1 to col. 6, line 7 and col. 10, lines 32-46). Hammang et al. contemplates implanting living cells comprising the active agent into the vitreous of the eye (See col. 11, lines 7-24).

Hammang et al. does not provide the amount of the active agent in μg/ml, however, one of ordinary skill in the art would have been able to determine the final concentration of the active agent by routine experimentation.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teachings of Hammang et al. to device methods for the treatment of pathologies affecting the internal tissue of an eye, comprising administering NGF, as disclosed in the patent. The expected result would have been successful methods of treatment

of the pathology in the eye. Because of the teachings of Hammang et al., that NGF is effective in treating ophthalmic diseases, one of ordinary skill in the art would have a reasonable expectation that the methods claimed in the instant application would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

8. Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reich (U.S. Patent 4,973,466) in view of Finkenaur et al.

Reich discloses a method for healing surgical and natural wounds in eye tissues, including sclera (See col. 1, lines 5-18). Reich teaches that the compositions of the invention can be formed into sheets or strips and comprise a gel and a medicament, including NGF (See col. 2, line 60 to col. 6, line 29).

Thus, Reich provides a method for treating a pathology affecting the internal tissue of an eye. Reich is deficient in the fact, that it does not disclose the amount of NGF used in the invention.

Finkenaur et al. discloses the use of a composition comprising a polypeptide growth factor, in particular NGF, in a concentration of 1-500 μg/ml for the treatment of ophthalmic wounds (See p. 4, lines 7-13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Reich and Finkenaur et al., to device methods for the treatment of pathologies affecting the internal tissue of an eye, comprising administering

NGF, as disclosed in the prior art. The expected result would have been successful methods of treatment of the pathology in the eye. Because of the teachings of Reich and Finkenaur et al.., that NGF is effective in treating ophthalmic diseases, one of ordinary skill in the art would have a reasonable expectation that the methods claimed in the instant application would be successful. Therefore the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liliana Di Nola-Baron whose telephone number is 703-308-8318. The examiner can normally be reached on Monday through Thursday, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3592 for regular communications and 703-305-3592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1234/ 1235.

September 24, 2002

THURMAN K. PAGE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600